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Via Electronic Mail
Mr. Fareed Ferhut
Integrated Waste Management Specialist
Buy Recycled Section
CIWMB
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Re: Additional Comments on Draft EPP Printer and Duplication Standards

Dear Mr. Ferhut,

Thank you for your response to Canon U.S.A., Inc., regarding changes to the Draft EPP Printer and Duplication Cartridge Standards. Canon appreciates the opportunity to comment on the Draft EPP voluntary standard and looks forward to continuing to work on the standard until all stakeholders reach consensus. We plan to attend the workshop meeting next week and look forward to meeting with you.

In advance of the meeting next week, Canon requests that you consider the following additional comments.

A. Scope of Standard

Canon reiterates its prior comment that the current EPP standard should be applied to monochrome toner cartridges only and not to color cartridges at this time. We previously noted that while color and monochrome cartridges may appear similar, they are in fact quite different. Color cartridges contain a higher number of complex components that must also meet very high tolerance levels in order to be capable of producing quality images. It is difficult to obtain and/or reuse color cartridge parts that are of sufficient quality to reuse in the production of new color cartridges due to parts wear and other factors. In addition, non-uniformity of tolerances of reused parts will result in seriously degraded color image quality.

We feel that focusing on monochrome cartridges satisfies the EPP environmental objectives set forth in the law. The Draft EPP standard is based on California Assembly Bill 498 (California Public Contract Code 12400) which defines EPP to mean, "[T]he procurement or acquisition of goods and services that have a lesser or reduced effect on human health and the environment when compared with competing goods or services that serve the same purpose. This comparison shall take into consideration, to the extent feasible, raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, disposal, energy efficiency, product performance, durability, safety, the needs of the purchaser, and cost."

The goal of the EPP program is to reduce the volume of plastics in landfills. This result can be achieved by focus on monochrome cartridges, which clearly make up the greatest percentage of cartridge products procured by state agencies. This greater usage allows for "comparison" and "consideration" of the EPP objectives set froth in the law, such as materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, disposal, energy efficiency, product performance, durability, safety, the needs of the purchaser and cost. These factors are being discussed by stakeholders regarding the production, reuse source reduction and recycling of monochrome cartridges. They are not adequately evaluated for color cartridges.

We would be willing to consider a fuller review of these factors as applied to color cartridges, but we suggest that significant additional information would be needed to evaluate feasibility, raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, disposal, energy efficiency, product performance, durability, safety, the needs of the purchaser, and cost for color cartridges as required under the law. Again, given the relative small percentage of color cartridges to monochrome, and the difficulties that Canon has identified, we do not believe inclusion of color cartridges would significantly advance the EPP objectives at this time.

B. Comments on Benchmarks

Please consider the following further comments to your November 17th letter:

1. Interpretation of Benchmark 2 and 4. Is our interpretation from your letter correct that Benchmarks 2 and 4 apply only to manufacturing of new cartridges (i.e. OEM cartridges) and that Benchmark 3 applies only to remanufactured, restored or renovated cartridges?

2. Interpretation on Points from Benchmarks. In your letter under section 2 "comments on Benchmarks" you state that "a combination of 100 points from the three benchmarks in Tier 2 signifies full attainment of Tier 2 for any cartridge model." If the total points is less than 100, does that mean the product does not qualify for EPP status? Separately, if one Supplier's Cartridge "A" totals 50 points and another suppliers comparable cartridge has zero points, will the preference be given to the cartridge from the first Supplier?

3. Further Comments on Benchmark 2. It has been discussed that many original equipment manufacturers are working to increase the use of post consumer materials in their products as far as possible. Based on these discussions with stakeholders, we understand the revised post consumer plastic levels. However, after further discussion we find that it is very difficult for all our cartridges to achieve the 10% threshold. It is our view that new cartridge manufacturers will not be able to utilize this Benchmark because the uniform and regular use of post consumer plastic for all our cartridges is difficult to maintain for the following two main reasons:

(a) Quality issues for post consumer materials: Cartridges are precision equipment. The cartridge materials, including plastic housing parts, require special engineering types of resin to meet critical functional requirements. Simply stated, post consumer plastic of the quality needed to manufacture all these cartridges is not readily available. Additionally, due to the non-uniform nature of the post consumer plastic supply stream, if it is available at all, use of such material requires extraordinary quality control sampling and testing to assure that the plastic meets stringent design and performance requirements.

(b) Quantity issues for availability of post consumer materials: The supply quantity is not sufficient to allow for efficient production planning. The global supply volumes vary and may not be readily available at the time the raw material is required, which effects comment (a) above. Furthermore, post consumer plastic material from new designs or new modification of existing cartridge products will not be part of the recycled waste stream for some time, conversely, there would be more recycled plastic for use in the older designs but there will be lower sales of these cartridges due to obsolescence. Also, the older plastic materials most likely will not be suitable for use in newer product designs.

As mentioned in comment (a) above, original cartridge manufacturers cannot simply use currently available post consumer plastic material collected from the broad spectrum of different plastic products that they originate from. Manufacturers are seriously restricted in the area of recycled plastic content use in cartridges by difficult technical requirements such as special grade plastics formulated to optimize function as well as molding characteristics that affect the final product. For example, after the melt and molding manufacturing stage, the cartridge will shrink as it cools. This shrinkage is engineered into the process and must be uniform. Changing the plastic formulation by addition of recycled plastic that is not compatible with the process will affect the rate and uniformity of this shrinkage and can cause the final product to warp and be unsuitable for use. Additionally, the normal heterogeneous nature of post consumer plastic may be suitable for manufacture of other plastic products, however it will contain non specification resins that can effect the molding dynamics extensively and as a result is unsuitable for the precision molding required for cartridge manufacture.

Additionally, the availability of sufficient quantity of post consumer plastic suitable for cartridge manufacture remains limited, as mentioned in comment (b) above. For example, the volume of new designed cartridges may be low during the early sales phase of its introduction, and this will result in low return of these cartridges at this stage. In subsequent years, as sales continue, a certain portion of the new cartridges will be returned, however, the post consumer plastics from the new cartridges returned will not be sufficient quantity for the increased production demand for the new cartridge.
We also note that for many original equipment manufacturers, cartridge manufacturing may be done in locations where logistics and economics make it unfeasible to ship recycled

plastics overseas for use in new manufactured product and where other market supplies may not exist.

Canon actively supports the recycling and reuse of plastics. However, we have found that there is great difficulty in resolving the molding dynamic, functional problems, and supply problems of using post consumer plastic in all our cartridges. We are further concerned that due to the proposed requirement for use of post consumer materials as a prerequisite for inclusion in EPP, manufacturers may not be able to incorporate new and innovative materials into new cartridge products due to requirements for recycled content. This may cause OEM cartridge manufacturers to avoid use of new and innovative plastic materials in the development of future products because of the lack of availability and quality of post consumer plastic. This will have the unintended consequence of delaying the advancement of new technologies that may have better design and carry less environmental burden than current products.

4. Further Comments on Benchmark 3. We feel that the criteria used for the method to achieve points under Benchmark 3 is unclear and not as distinct as for Benchmarks 2 and 4. For example, Benchmark 2 requires a specific percentage of post consumer plastic to attain 100 points or 50 points respectively. Benchmark 4 requires a specific collection percentage to obtain points. However, Benchmark 3 does not stipulate the extent of remanufacture it simply states that it is the primary components that must come from a used cartridge. The decision as to what component is primary can be arbitrary and is unclear. Therefore we suggest that this Benchmark must be defined to include the specific threshold as follows:

1) Total rates for parts reused and material recycling out of cartridges collected to make "remanufactured cartridges", and/or
2) Total material recycling rates for unusable parts and materials out of cartridges collected to make "remanufactured cartridges."

5. Further Comments on Benchmark 4. We would like to reiterate that original equipment manufacturers go to significant effort and cost to administer free to the customer cartridge collection plans. We feel that this effort should be given equal weight versus use of post consumer plastic since both programs divert cartridges from the landfill. We also disagree with the conclusion made in your November 17th letter to us that promotion of a no charge to the consumer cartridge plan in the form of pamphlets and program informational package inserts do not support the CWIMB position of cartridge landfill diversion. We feel that these efforts help educate the consumer and play an important role in the success of the cartridge return program since it is the consumers action that determines the number of cartridges returned and recycled. Therefore we feel these efforts should be recognized.

We think it may be self-defeating to limit EPP status on a product-by-product basis. Certain cartridges may be sold in minimal numbers, while others have high volume. We believe there should be an award of points for companies that have a collection program,

not just for designation as to a specific cartridge model because models change on a regular basis. Further, the decision to include a cartridge type in a voluntary collection plan may be based on a life cycle analysis of that cartridge. This takes into account the added environmental burdens associated with collection, recycling of the cartridge, increased energy consumption and emissions due to transcontinental transport to overseas production facilities. Often times recycling locally carries the smallest environmental impact. Adding the extra collection requirement in Benchmark 4 could have unintended negative environmental impacts not related to land fill space.

Additionally, your November 17th letter states "For attainment of Benchmark 4 a cumulative collection rate will be considered." How would cartridge collection data be obtained from all parties concerned? We must reiterate that it is extremely difficult if not impossible for the industry as a whole to calculate a cartridge collection percentage and we feel it would give misleading results. Even if it was possible to get an exact count of the number of a specific cartridges collected, we note again that cartridge returns could encompass a number of years over which the product was originally sold. Using one year's total sales versus multiple sales years for a specific cartridge would give different percentages. The goal of determining the amount of cartridges diverted from the landfill would be arbitrary at best since one years sales versus cartridges collected would be a higher percentage that multiple years sales.

We would like CIWMB to explain to us what ideas could be applied for calculation of the collection rate as well as a cumulative collection rate across the industry. We feel that it is very difficult for the OEMs to obtain data for the cartridge collection rates of the cartridge re-manufacturers and brokers. Since the numbers stated for the collection rate must include numbers from all cartridge suppliers including OEM, re-manufacturers and brokers, how will California control what numbers are used for determination of the collection rate and for what sales years?

We suggested the use of a recycled cartridge rate as described in our earlier letter. We noted that the recycling rate can be improved by the efforts of the manufacturers. On the other hand, the collection rate is based on the behavior of the cartridge users. We suggested establishing a "recycling rate" benchmark calculation instead of the collection rate as follows:

Recycling Percentage = (X/Y) x 100

Where X is the total weight of "parts reused" and "material recycling" for the creation of new products and/or cartridges
Where Y is the total weight of cartridges that were returned to the manufacturer (applies for only self-manufactured cartridges)

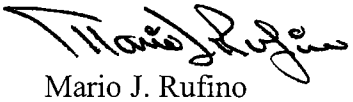
6. Benchmark 5 as a new standard. If the case arises where agreement cannot be reached on the use of Benchmark 4 (i.e recycling percentage instead of collection percentage), we would like to propose that an additional Benchmark criterion, which we

refer to as Benchmark #5 be added to allow the use of the recycling percentage (as discussed in comment 5 above) to award points for a manufacturers' efforts. We suggest that products containing greater than 50% recycling percentage receive 100 points.

In conclusion, Canon supports the EPP program. We agree on the importance of environmental objectives to minimize landfilling, but we also recognize that high quality product standards must be maintained. We welcome the opportunity to continue to participate in your program.

Please do not hesitate to contact me should you have any questions regarding our comments.

Very truly yours,
Canon U.S.A., Inc.



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cc: Roy Futagami